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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,194

09/21/2006

Andreas Lingens

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EXAMINER

MATTHIAS, JONATHAN R

ART UNIT

PAPER NUMBER

3748

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,194	<b>Applicant(s)</b> LINGENS ET AL.	
	<b>Examiner</b> Jonathan Matthias	<b>Art Unit</b> 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/15/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. A drawing figure has been accepted in the instant application as a part of the International Application abstract filed on March 15, 2006. Applicant is required to furnish a separate drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13-26, 28-29, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,375,695 to Machida et al. (Machida). Machida discloses:

In reference to claim 13, forcibly passing a stream of a fluid through a filter wall of the filter from a raw gas side to a clean gas side of the filter so as to separate out particles and particle constituents from the stream (col. 6, lines 41-49; Fig. 1), wherein the particles and particle constituents are collected by the filter wall on the raw gas side (col. 4, lines 21-25); and performing a regeneration process on the filter during operation of the filter, wherein the regeneration process includes removing particles and

particle constituents from the raw gas side of the filter and moving the removed particle constituents to a receiving device disposed on the raw gas side (col. 8, lines 14-60).

In reference to claim 14, the particles include soot and the particle constituents include ashes (col. 1, lines 5-12; col. 7, lines 32-43).

In reference to claim 15, the regeneration process is performed continuously during operation of the filter (col. 3, lines 55-60).

In reference to claim 16, the moving of the particle constituents is performed continuously during operation of the filter (col. 3, lines 55-60).

In reference to claim 17, the fluid is a gas (col. 3, lines 47-53).

In reference to claim 18, the filter is a particle filter for an internal combustion engine (col. 3, lines 55-60).

In reference to claim 19, forcibly passing a stream of a fluid through a filter wall of the filter from a raw gas side to a clean gas side of the filter so as to separate out particles and particle constituents from the stream (col. 6, lines 41-49; Fig. 1), wherein the particles and particle constituents are collected on the raw gas side (col. 4, lines 21-25); and performing a regeneration process on the filter during operation of the filter, wherein the regeneration process includes removing particles and particle constituents from the raw gas side of the filter and disposing of the removed particle constituents (col. 8, lines 14-60), wherein the filter walls includes a plurality of channels on the raw gas side (see Fig. 1), each channel closed by a closure wall (51, 52, Fig. 1) configured to be partially opened to enable the disposing of the particle constituents (col. 7, lines 14-31).

In reference to claim 20, with regard to the limitation of the fluid stream is imparted with a pulsating flow, the method as disclosed by Machida includes the exhaust of an internal combustion engine, which inherently possesses a pulsating flow as each of the cylinders' exhaust valves are opened in turn, thereby releasing exhaust gas into the exhaust system. Therefore the method as disclosed by Machida meets the limitations of the claim.

In reference to claim 21, feeding a pressurized medium into the filter on the raw gas side (col. 8, lines 15-48).

In reference to claim 22, the pressurized medium is pressurized air (col. 8, lines 15-23).

In reference to claim 23, the fluid stream flows through the receiving device (col. 8, lines 50-60).

In reference to claim 24, the receiving device (6, Fig. 2) includes a regenerable filter surface (62, Fig. 10; col. 7, lines 32-43).

In reference to claim 25, the receiving device includes a flow outlet (60, Fig. 10) leading out of the receiving device and connected to the clean gas side (col. 7, lines 32-43).

In reference to claim 26, the outlet (8, Fig. 1) leading out of the clean gas side of the filter is closable (col. 6, line 55-col. 7, line 5).

In reference to claim 28, the regeneration process is performed thermally (col. 7, lines 32-43).

In reference to claim 29, a filter (10) comprising: a filter wall (20, Fig. 1) dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the wall (col. 4, lines 20-25) and to enable the particles and particle constituents to be removed in a regeneration process (col. 6, lines 49-55); and a receiving device (6, Fig. 2) configured to receive a flow of the fluid therethrough during the regeneration process and to receive and hold the particle constituents (col. 7, lines 14-19), wherein the receiving device is connectable on the raw gas side of the filter wall (Fig. 2).

In reference to claim 31, a filter (2, Fig. 1) comprising: a filter wall (20, Fig. 1) dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the wall (col. 4, lines 20-25) and to enable the particles and particle constituents to be removed in a regeneration process (col. 6, lines 49-55), wherein the filter wall includes a plurality of channels (5, Fig. 2) on the raw gas side, each channel including a closure wall (51, 52, Fig. 1) configured to be at least partially opened so as to enable disposal of the particle constituents (col. 7, lines 14-18).

4. Claims 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,634,952 to Kasai et al. (Kasai). Kasai discloses:

In reference to claim 29, a filter (10) comprising: a filter wall (12, Fig. 2) dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the wall (col. 12, lines 1-10) and to enable the particles and particle constituents to be removed in a regeneration

process (col. 12, lines 10-25); and a receiving device (15, Fig. 3) configured to receive a flow of the fluid therethrough during the regeneration process and to receive and hold the particle constituents (col. 12, lines 18-25), wherein the receiving device is connectable on the raw gas side of the filter wall (Fig. 2).

In reference to claim 30, the receiving device is removably connectable to the filter wall (col. 12, lines 10-25).

***Claim Rejections - 35 USC § 103***

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Machida as applied to claim 13 above, and further in view of US Patent No. 4,902,487 to Cooper et al. (Cooper).

Machida discloses the method of claim 13, but fails to disclose the regeneration process includes feeding nitrogen dioxide into the filter. Cooper is brought in merely to demonstrate that it is conventional to feed nitrogen dioxide into a diesel particulate filter in order to perform a regeneration process (col. 1, line 66-col. 2, line 66). It would have

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been obvious to one having ordinary skill in the art at the time of invention to have used the conventional process as demonstrated by Cooper into the method of Machida to have the predictable result of combusting soot from the filter.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Matthias whose telephone number is (571) 270-5840. The examiner can normally be reached on Monday-Friday 8:00AM-5:00PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/  
Supervisory Patent Examiner, Art Unit 3748

JM